

LISTING OF THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims on the application.

1. (Currently Amended) A computer-implemented method comprising:

(a) accepting structural information relating to a carton constructed of a planar substrate that will be cut and folded to yield a three-dimensional carton having surface regions that will be printed with graphics;

(b) creating a three-dimensional computer-generated image of said carton on a computer monitor;

~~_____~~ (c) accepting said graphics or interacting with a user to design said graphics to cover said surface regions of said carton;

~~(e) (d) interacting with said user to superimpose said graphics accepted or designed at step (b) (c) wherein said three-dimensional computer-generated image includes said superimposed graphics on a computer-generated two-dimensional image of relevant regions of said planar substrate to be printed with graphics, said two-dimensional image displayed on a computer monitor;~~

(d) (e) interacting with said user to manipulate, as required, said graphics accepted or designed at step (b) (c) to cover relevant said regions of each said surface, as viewed on said computer-generated image on said computer monitor;

~~_____~~ (e) creating a three-dimensional computer-generated image of said carton on said computer monitor or on a different computer monitor, said image including graphics accepted or designed at step (b) and, if required, manipulated at step (d);

(f) receiving from said user, said user confirming from visualizing said computer-generated image created at step ~~(e)~~ (c), an indication of acceptability of graphics covering relevant said regions, and modifications, if required, of said graphics; and

(g) determining and outputting computer-readable data containing said accepted or designed graphics whose acceptability was received at step (f), said computer-readable data usable for printing of said graphics upon at least some surface regions of said planar substrate.

2. (Original) The method of claim 1, wherein at step (a), said structural information includes at least one of (i) a pattern showing cuts to be made on said planar substrate to define at least one of a panel and a flap, (ii) information defining where at least one of a panel and a flap are to be folded through a fold angle, and (iii) information relating to composition of said substrate.
3. (Original) The method of claim 1, further including generating at least one clipping mask to avoid printing on a surface of said carton that is not visible when fabrication of said carton is complete.
4. (Original) The method of claim 1, further identifying regions of graphics to be printed on said carton that are likely to experience printing ink bleeding and compensating for such bleeding in laying out said regions of said graphics.
5. (Currently amended) The method of claim 1, wherein manipulating at step ~~(d)~~ (c) includes at least one of (i) rotation, (ii) scaling, (iii) copying, (iv) cutting, and (v) pasting.
6. (Previously presented) The method of claim 1, further including:
 - (h) providing said computer-readable data output at (g) as input to a carton fabrication system.

7. (Original) The method of claim 1, wherein said graphics are designed for printing on a carton having at least five surfaces.

8. (Currently amended) A system for the design of graphics to be printed on a planar substrate that will be cut and folded to yield a three-dimensional carton regions of whose outer surface will be printed with the graphics so designed, the system comprising:

a computer system including a processor able to execute a software program allowing a user of said computer system to design and manipulate graphics and view said graphics on a monitor coupled to said computer system, and said monitor;

a computer readable storage medium containing said software program;

means for providing structural information relating to said carton to said software program executed by said computer system;

means for accepting graphics or for allowing said user of said computer system to design graphics, said graphics being to cover relevant regions of ~~each surface~~ one or more surfaces of said carton to be printed with said graphics, ~~and to superimpose user-manipulable graphics so designed on an image generated by said computer system and displayed on said monitor of said relevant regions of said planar substrate;~~

means for creating a three-dimensional computer-generated image of said carton displayable on said monitor, said image including ~~user-manipulable designed~~ said graphics, including means to superimpose user-manipulable graphics according to said accepted or designed graphics on said computer-generated image displayed on said monitor.

wherein said user can confirm from visualizing said three-dimensional computer-generated image acceptability of said graphics, and can modify, as required, said graphics; and

means for determining and outputting computer-readable data containing designed said graphics whose acceptability is confirmed by said user, said file usable for printing of said graphics upon at least some surface regions of said planar substrate.

9. (Original) The system of claim 8, wherein said structural information includes at least one of (i) a pattern showing cuts to be made on said planar substrate to define at least one of a panel and a flap, (ii) information defining where at least one of a panel and a flap are to be folded through a fold angle, and (iii) information relating to composition of said substrate.
10. (Original) The system of claim 8, further including means for generating at least one clipping mask to avoid printing on a surface of said carton that is not visible when fabrication of said carton is complete.
11. (Original) The system of claim 8, further including means for identifying regions of graphics to be printed on said carton that are likely to experience printing ink bleeding and compensating for such bleeding in laying out said regions of said graphics.
12. (Original) The system of claim 8 wherein user-manipulation of said graphics includes at least one of (i) rotation, (ii) scaling, (iii) copying, (iv) cutting, and (v) pasting.
13. (Previously presented) The system of claim 8 further including:

a carton fabrication system to which said computer-readable data output from said computer sub-system is input to control at least printing of cartons within said carton fabrication system.
14. (Currently amended) A computer-readable medium storing a software program that when executed by a computer processor will carry out a method comprising:
 - (a) receiving as input structural information relating to a carton constructed of a planar substrate that will be cut and folded to yield a three-dimensional carton having surface regions that will be printed with graphics;

(b) creating a three-dimensional computer-generated image of said carton on a computer monitor;

~~(c)~~ (c) accepting graphics or enabling a user of said software program to design graphics, said graphics being to cover one or more regions of at least one surface of said carton;

(e) ~~(d)~~ interacting with said user to superimpose said graphics accepted or designed at step ~~(b)~~ (c), wherein said three-dimensional computer-generated image includes said superimposed graphics on a computer-generated image of relevant regions of said planar substrate to be printed with graphics, ~~said two-dimensional image displayed on a computer monitor;~~

~~(d)~~ (e) interacting with said user to manipulate, as required, said graphics accepted or designed at step ~~(b)~~ (c) to cover relevant said regions of each said surface, as viewed on said computer-generated image on said computer monitor;

~~(e)~~ creating a three-dimensional computer-generated image of said carton on said computer monitor or on a different computer monitor, said image including graphics accepted or designed at step (b) and, if required, manipulated at step (d);

(f) enabling said user of said software program to confirm from visualizing said computer-generated image ~~created at step (e)~~, acceptability of graphics covering relevant said regions, and modifying, if required, said graphics;

(g) accepting an indication of said acceptability from said user; and

(h) determining and outputting computer-readable data containing designed said graphics whose acceptability was confirmed at step (f), said computer-readable data usable for printing of said graphics upon at least some surface regions of said planar substrate.

15. (Previously presented) The computer readable medium of claim 14, wherein said computer-readable data output at step (h) is useable as input to a carton fabrication system.
16. (Currently amended) A planar substrate having at least some surface regions printed with graphics, said substrate cuttable and foldable to create a three-dimensional carton, the substrate produced by a computer-implemented method comprising:
- (a) accepting structural information relating to a carton constructed of a planar substrate that will be cut and folded to yield a three-dimensional carton having surface regions that will be printed with graphics;
 - (b) creating a three-dimensional computer-generated image of said carton on a computer monitor;
 - (c) accepting said graphics or interacting with a user to design said graphics to cover said surface regions of said carton ;
 - (d) ~~(e)~~ (e) interacting with said user to superimpose said graphics accepted or designed at step (b) ~~(c)~~, wherein said three-dimensional computer-generated image includes said superimposed graphic on a computer-generated two-dimensional image of relevant regions of said planar substrate to be printed with graphics, said two dimensional image displayed on a computer monitor;
 - (d) (e) interacting with said user to manipulate, as required, said graphics accepted or designed at step ~~(b)~~ (c) to cover relevant said regions of each said surface, as viewed on said computer-generated image on said computer monitor;
 - (e) ~~creating a three-dimensional computer-generated image of said carton on said computer monitor or on a different computer monitor, said image including~~ graphics accepted or designed at step (b) and, if required, manipulated at step (d);

(f) receiving from said user, said user confirming from visualizing said computer-generated image ~~created at step (e)~~, acceptability of graphics covering relevant said regions, and modifications, if required, of said graphics;

(g) determining and outputting computer-readable data containing accepted or designed said graphics whose acceptability was received at step (f); and

(h) using said computer-readable data output at step (g) to control at least in part printing of said graphics upon at least some surface regions of said planar substrate.

17. (Currently amended) A carton formed from a planar substrate that was printed and cut and subsequently folded to yield a three-dimensional carton having outer surface regions printed with graphics, the carton produced by the following computer-implementable process:

(a) accepting structural information relating to a carton constructed of a planar substrate that will be cut and folded to yield a three-dimensional carton having surface regions that will be printed with graphics;

(b) creating a three-dimensional computer-generated image of said carton on a computer monitor;

(c) accepting said graphics or interacting with a user to design said graphics to cover said surface regions of said carton;

(d) interacting with said user to superimpose said graphics accepted or designed at step (b) (c), wherein said three-dimensional computer-generated image includes said superimposed graphics on a computer-generated two-dimensional image of relevant regions of said planar substrate to be printed with graphics, said two-dimensional image displayed on a computer monitor;

- (d) ~~(c)~~ interacting with said user to manipulate, as required, said graphics accepted or designed at step ~~(b)~~ ~~(c)~~ to cover relevant said regions of ~~each~~ said surface, as viewed on said computer-generated image on said computer monitor;
- ~~— (e) creating a three-dimensional computer-generated image of said carton on said a computer monitor or on a different computer monitor, said image including graphics accepted or designed at step (b) and, if required, manipulated at step (d);~~
- (f) receiving from said user, said user confirming from visualizing said computer-generated image ~~created at step (e)~~, acceptability of graphics covering relevant said regions, and modifications, if required, of said graphics;
- (g) determining and outputting computer-readable data containing said accepted and designed graphics whose acceptability was received at step (f), said computer-readable data usable for printing of said graphics upon at least some surface regions of said planar substrate; and
- (h) using said computer-readable data output at step (g) to control at least in part printing of said graphics upon at least some surface regions of said planar substrate.
18. (Original) A carton according to claim 17, wherein said substrate is printed with said graphics before said substrate is cut.
19. (Original) A carton according to claim 17, wherein at step (a), said structural information includes at least one of (i) a pattern showing cuts to be made on said planar substrate to define at least one of a panel and a flap, (ii) information defining where at least one of a panel and a flap are to be folded through a fold angle, and (iii) information relating to composition of said substrate.

20. (Original) A carton according to claim 17, wherein production of said carton includes at least one of (i) generating at least one clipping mask to avoid printing on a surface of said carton that is not visible when fabrication of said carton is complete, and (ii) identifying regions of graphics to be printed on said carton that are likely to experience printing ink bleeding and compensating for such bleeding in laying out said regions of said graphics.